REMOVAL OF AN UPHOLSTERER'S TACK FROM THE RIGHT BRONCHUS.

By AUGUSTUS VON LIEW BROKAW, M.D.,

OF ST. LOUIS, MISSOURI,

PROFESSOR OF CLINICAL SURGERY IN THE MEDICAL DEPARTMENT OF WASHINGTON UNIVERSITY; SURGEON-IN-CHIEF, ST. JOHN'S HOSPITAL.

THE technical difficulties encountered in the location of metallic foreign bodies within the economy have been materially lessened by the use of the X-ray. From an experience acquired in taking several hundred radiograms and in the routine use of skiagraphic examinations in my practice, I am convinced of the great value of the X-ray in more than one department of medicine; and the following case, as illustrative of the utility of this agent in the field of physical diagnosis, for the certain and absolute localization of foreign bodies, is not without value.

On the evening of February 15, 1902, R. S., aged eight years, while playing around her home, carried in her mouth an ordinary umbrella-headed upholsterer's tack, and in some manner let it slip back into the pharynx and, as it eventually proved, through the larynx into the trachea, finally lodging in the right bronchus. The attention of the mother was attracted by the strangling and coughing of the child; and after shaking and inversion had failed to expel the tack, a physician was summoned, who, thinking that the tack might have lodged in the œsophagus, had the child swallow some dry bread in an effort to clear the œsophagus. Nothing further was done at the time.

The child became very hoarse and a rattling noise could be heard in her throat; that night she was very restless, and the next morning she had a severe spell of coughing, which so exhausted her that she fell asleep again and slept for several

hours. During the four days that followed the accident the child's breathing was rather heavy and the rattling noise in her throat was still present; on the fourth day, however, she coughed up some mucus and blood, and with this the hoarseness and rattling disappeared.

Five days after the accident the child was taken to a physician, who, by means of the X-ray, located the tack in the trachea just at the bifurcation, but no attempt was made to remove the tack.

On March 10 the child was brought to me. The mother said that every morning and evening the child had a paroxysm of coughing, so severe as to completely exhaust her, but during the day she had only a slight hacking cough. Since the accident her temperature had ranged from 100° to 103° F., and her loss in weight had been constant, amounting in the aggregate to about ten pounds, according to the estimate of the mother. The child was drowsy and slept soundly at intervals.

When the child was brought to me I made a skiagraphic examination and took a radiogram of the child's chest. With the fluoroscope the tack was readily located in the right bronchus, and the accompanying radiogram will show the tack *in situ*.

On March 14 the child entered St. John's Hospital, and on the following morning, under a general anæsthetic, a low tracheotomy was made, the innominate artery being in evidence in the lower angle of the incision. On opening the trachea a large quantity of muco-pus was expelled. After cocainization of the tracheal mucosa, a large endoscopic tube was introduced and an attempt made to locate the tack by reflected light, but, owing to the blood and muco-pus which were present, the tack could not be seen. A pair of flexible laryngeal forceps with an elbow to seize the tack, which had been selected by Dr. W. E. Sauer, who was associated with me in the case as a laryngologist, was then introduced through the tube, and an effort made to find and grasp the tack; but unfortunately the child became very cyanotic, and it was thought best not to make any further attempts at removal for the present. The child recovered from the operation very nicely.

The tracheal wound was left open with the idea that the tack might be expelled spontaneously; but, though the severe coughing spells continued and a large amount of muco-pus was

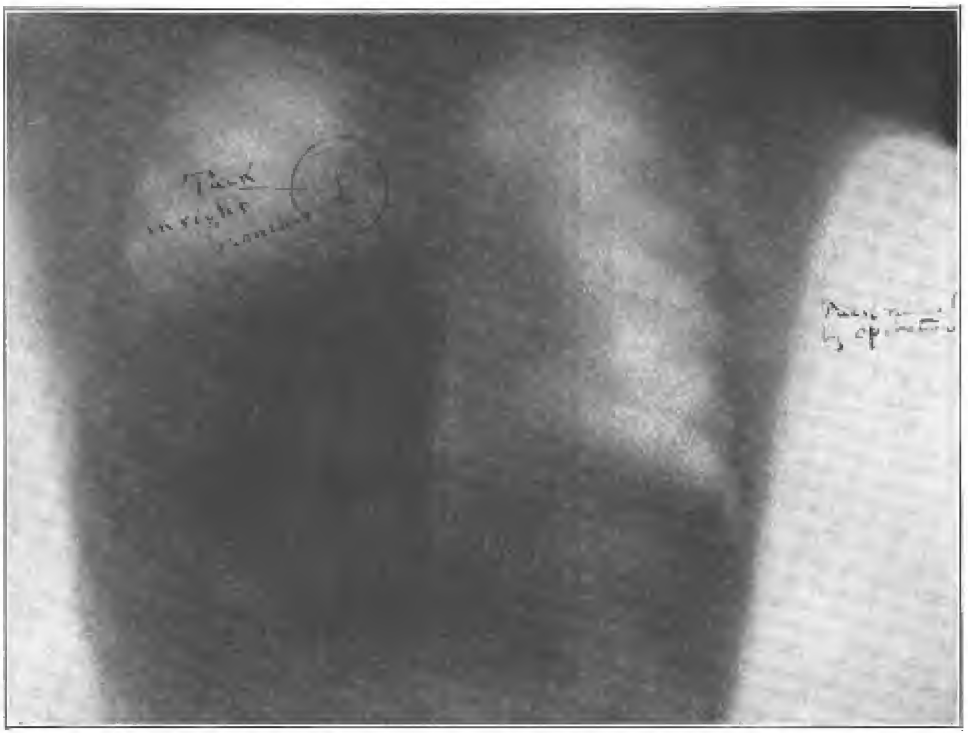

FIG. 1.—Showing tack in right bronchus.

FIG. 2.—Position in which child was placed to introduce the endoscopic tube.

expelled, the tack remained in the bronchus. The trachea wound closed spontaneously about six days after the operation.

On March 20 the child was again given an anæsthetic, and, in addition, the trachea was thoroughly cocainized and swabbed out with a solution of adrenalin. A powerful electro-magnet, which had been very ingeniously contrived under the direction of Dr. I. P. Chandeysson, was then introduced through the tracheal wound and carried down into the bronchus in an effort to find and withdraw the tack; and, although the tack could be felt with the magnet, it was too firmly embedded to be withdrawn by this means.

The large endoscopic tube was then introduced into the trachea, and, taking advantage of the mobility of the trachea in the patient, carried down into the right bronchus, but upon examination with reflected light the tack could not be seen because of the accumulation of mucus in the bronchus. The laryngeal forceps used in the first operation was again inserted through the endoscopic tube, and the tack was felt and grasped, but so firmly embedded was it that several times the hold of the forceps was broken. We found that the head of the tack was larger than the lumen of the tube through which we were working, and when, at length, a firm hold on the tack was secured, the tube and the forceps were withdrawn simultaneously. Considerable hæmorrhage followed the removal of the tack, owing to the tearing of the mucosa in pulling the tack along the passage. A tracheotomy tube was introduced, and the child put to bed.

With the exception of a slight rise in temperature four hours after the operation, the child had no fever. For a few days after the operation a good deal of mucopurulent secretion was coughed up, but this gradually disappeared, and an uneventful recovery followed. On March 31 the child left the hospital.